Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

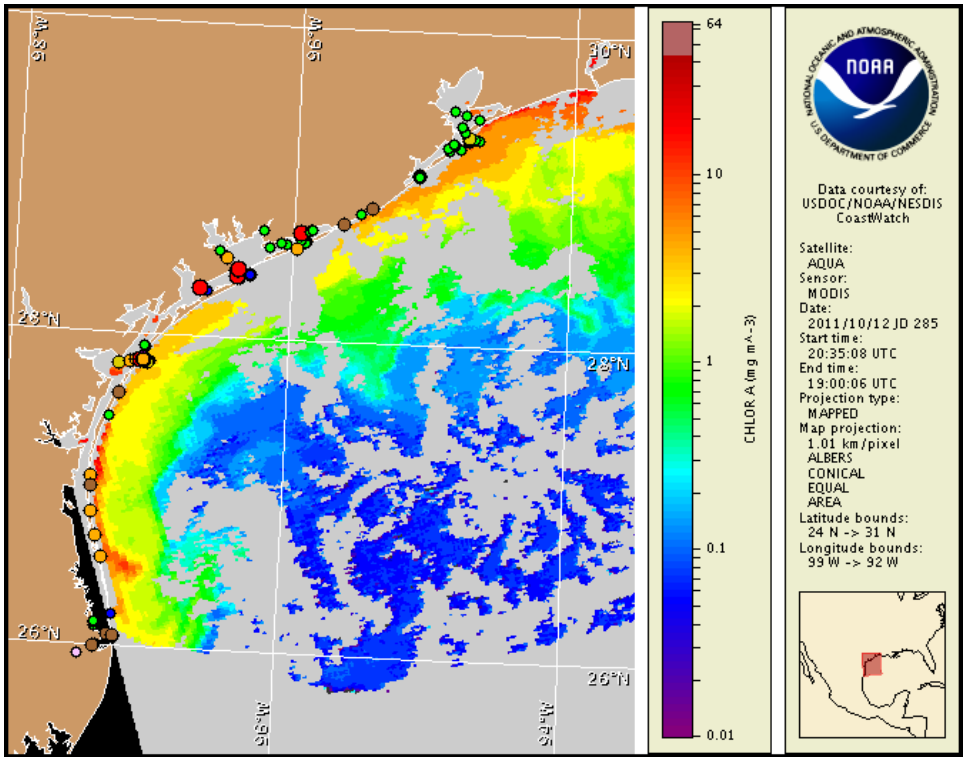
Thursday, 13 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Tuesday, October 11, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 3 to 12 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Today through Sunday, patchy high impacts are possible in the Port Aransas/Corpus Christi and Matagorda Peninsula regions, patchy moderate impacts are possible in the Galveston/Freeport area, alongshore Padre Island National Seashore, within the lower Laguna Madre, and within the Brownsville Ship Channel, and patchy low impacts are possible along South Padre Island. No additional impacts are expected at the coast in Texas today through Sunday, October 16. Reports of dead fish have been received from within canals of the Matagorda Bay Harbor subdivision, Welder Flats Coastal Preserve, San Jose Island, Mustang Island State Park, and alongshore the Padre Island National Seashore. Respiratory irritation has been reported from the TAMUCC area, San Jose Island, Mustang Island State Park, and Padre Island National Seashore. Discolored water is present in Matagorda and Espiritu Santo Bays and along the Padre Island National Seashore.

Analysis

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Several samples collected within Aransas Pass at the UTMSI pier and marina and Port Aransas Marina, as well as one sample collected offshore the Pass, indicate that *Karenia brevis* concentrations in this area continue to range from 'low b' to 'high' (10/11-10/12; TPWD). Four samples collected further inside Aransas Pass, in Corpus Christi Bay indicate *K. brevis* concentrations ranging from background to 'medium' (10/11; TPWD). One sample collected further south at the Packery Channel boat launch at Mustang Island State Park identified 'low a' concentrations, an increase from the 'not present' status previously reported late last week (10/11; TPWD). North of Aransas Pass, 'very low a' *K. brevis* concentrations were identified within Lydia Ann Channel and within Aransas Bay inside Mud Island; *K. brevis* was not present in one sample collected outside Mud Island (10/11; TPWD).

In the Matagorda Bay region, 'high' *K. brevis* concentrations have been identified within the Intracoastal Waterway near Port O'Connor, at Port O'Connor Little Jetties, and at the northern (Saluria Bayou) and southern (Turnstake Reef) ends of Espiritu Santo Bay (10/11; TPWD). 'High' concentrations also continue to be reported from Matagorda Harbor, and 'low b' to 'medium' concentrations have been identified within the Bay Harbor subdivision canals (10/10; TPWD). Two 'very low b' concentrations were reported within Pass Cavallo and at Port O'Connor Big Jetties (10/11; TPWD), and two samples collected from the southern end of East Matagorda Bay indicate that *K. brevis* is not present (10/10; TPWD). Of 14 samples collected in the Galveston area, including Galveston Bay, West Bay, and San Luis Pass, only two samples from Bolivar Roads Pass contained *K. brevis* ('very low b' and 'low b' concentrations); all other samples throughout the area indicate that *K. brevis* is not present (10/11; TPWD).

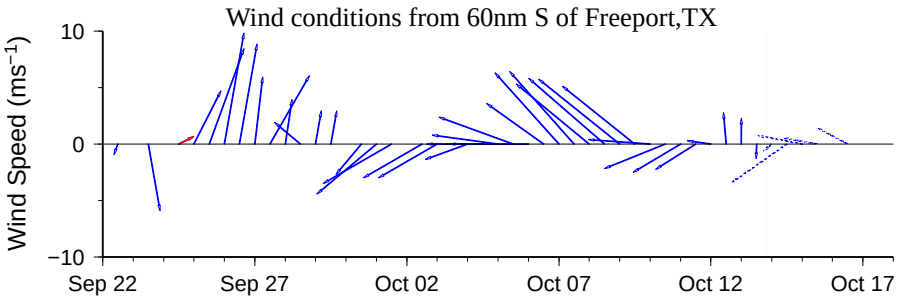
Recent samples collected alongshore the southern end of South Padre Island and within the lower Laguna Madre indicate *K. brevis* concentrations ranging from 'very low a' to 'low a' at the Isla Blanca boat ramp, the west end of the Queen Isabella Causeway, Brazos Santiago Pass, UTPA Coastal Studies Lab, and South Padre Beach Access #6 (10/6-10/12; TPWD). One sample collected within the Brownsville Ship Channel at the San Martin boat ramp indicates that *K. brevis* concentrations have decreased from 'low b' (reported 10/8, TPWD) to 'low a' (10/11; TPWD). Four samples collected along Holly Beach and on the west bank of the lower Laguna Madre indicate that *K. brevis* is not present. No new samples have been received from the Padre Island National Seashore area; however, all reports indicate that the bloom continues to be present in this area (10/12-13; TPWD).

Reports of dead fish have been received from the Matagorda Bay region within the canals of the Bay Harbor subdivision and at Welder Flats Coastal Preserve. Dead fish have also been reported from San Jose Island, Mustang Island State Park, and alongshore the Padre Island National Seashore; stressed fish have been reported from Dewberry Island. Respiratory irritation has been reported along San Jose Island (stronger along the southern end), Mustang Island, in the TAMU-Corpus Christi area, and along the entire length of Padre Island National Seashore. Discolored water is visible in Matagorda and Espiritu Santo Bays and along Padre Island National Seashore (10/12-13; TPWD).

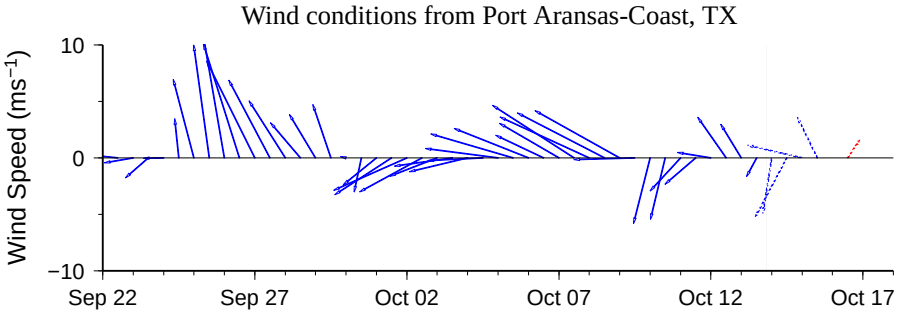
MODIS imagery continues to be obscured by clouds in patches along much of the Texas coastline, limiting analysis. In MODIS imagery (10/12, shown left) a band of elevated to very high chlorophyll (2 to >20 μg/L) is visible along- and offshore the length of the Padre Island National Seashore, stretching from Port Aransas to South Padre Island. Elevated to high chlorophyll (2-18 μg/L) is also visible along- and offshore Sabine Pass to Bolivar Roads Pass. Imagery is obscured by clouds in the Galveston region from Bolivar Roads Pass to San Luis Pass, as well as along- and offshore the Matagorda Peninsula region, limiting analysis in these areas. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

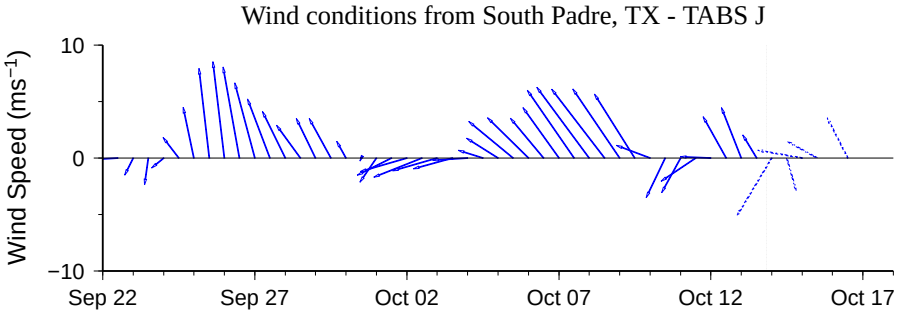
Forecast models indicate a maximum bloom transport of 20km south from coastal sample locations along the Padre Island National Seashore, and 50-80km south from Brazos Santiago Pass, from October 12 to 16. Forecast models indicate a maximum bloom transport of 15km south from coastal sample locations in the Matagorda region and Aransas Pass from October 12 to 16.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



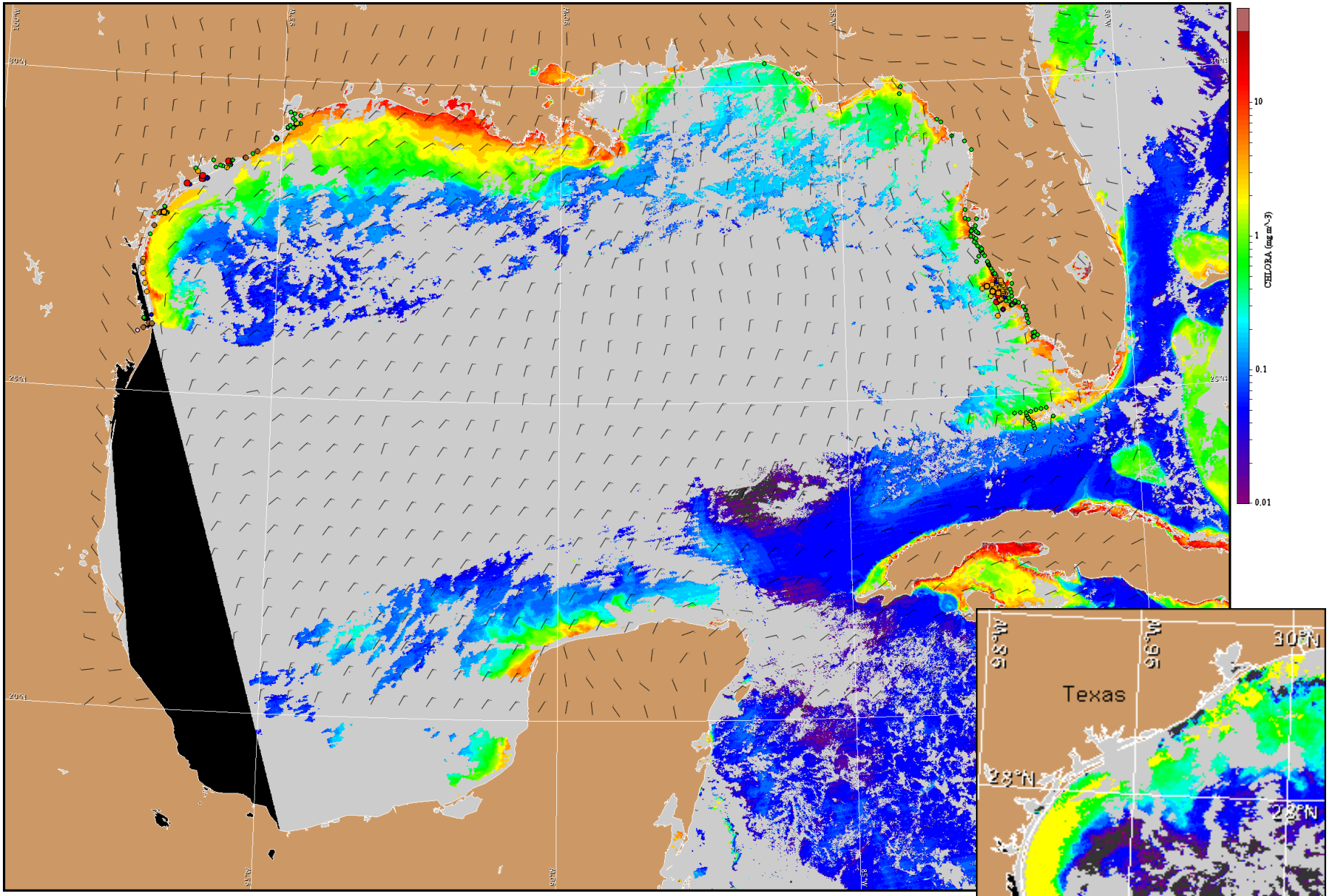


Wind Analysis

Galveston and Freeport area: North winds (10-15kn, 5-8m/s) today. Northeast winds (10kn, 5m/s) Friday, shifting east Friday afternoon through Saturday. Southeast winds (10-15kn) Saturday night through Sunday.

Port Aransas: North winds (10-15kn, 5-8m/s) today. Northeast winds (10-15kn) Friday, shifting east Friday night. Southeast winds (5-15kn, 3-8m/s) Saturday and Sunday.

South Padre: North winds (10-15kn, 5-8m/s) today. Northeast winds (10kn) Friday, becoming east (10-15kn) Friday night through Sunday.



Satellite chlorophyll image and forecast winds for October 14, 2011 12Z with cell concentration sampling data from October 3 to 12 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:
http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).